AMENDMENTS TO THE CLAIMS

In the set of claims within the Application, please cancel, withdraw, amend, or retain each claim as hereinafter indicated.

1. (Withdrawn) A system for sensing an object proximate to a vehicle and selectively initiating safety operations onboard said vehicle in response thereto, said system comprising:

a single vision sensor having a position with associated coordinates onboard said vehicle and operable to detect at least one object and also accordingly generate at least one object detection signal;

a controller coupled to said single vision sensor and operable to generate a safety system signal in response to said associated coordinates and said at least one object detection signal and also determine said position of said single vision sensor relative to a predetermined reference onboard said vehicle that has fixed coordinates; and

at least one passive countermeasure coupled to said controller and selectively operable to initiate a safety operation onboard said vehicle in response to said safety system signal.

2. (Withdrawn) A system as in claim 1, wherein said single vision sensor is a single two-dimensional vision sensor.

3. (Withdrawn) A system as in claim 1, wherein said single vision sensor is a type of sensor selected from the group consisting of a camera, a charge-coupled device (CCD), an infrared detector, a sensor having at least one photodiode, and a complementary metal-oxide semiconductor (CMOS).

4. (Withdrawn) A system as in claim 1, wherein said controller is operable to perform an adaptive cruise control task in response to said safety system signal.

5. (Cancelled)

6. (Withdrawn) A system as in claim 1, wherein said fixed coordinates are associated with a hoodline of said vehicle.

7. (Withdrawn) A system as in claim 1, wherein said controller is operable to determine a size and an up-angle of each said object and, in response thereto, also determine a range of each said object.

8. (Withdrawn) A system as in claim 1, wherein said system further comprises a memory coupled to said controller and operable to store a predetermined position of said single vision sensor.

9. (Previously Presented) A method of initiating safety system operations onboard a vehicle, said method comprising the steps of:

(a) determining position coordinates of a single vision sensor relative to determined reference point coordinates onboard said vehicle;

(b) detecting at least one object proximate said vehicle with said single vision sensor and accordingly generating at least one object detection signal;

(c) determining at least one characteristic of an occupant onboard said vehicle with at least one occupant sensor and accordingly generating at least one occupant characteristic signal; and

(d) generating a safety system signal in response to said position coordinates of said single vision sensor, said at least one object detection signal, and said at least one occupant characteristic signal.

10. (Previously Presented) A method as in claim 9, wherein step (a) is at least partially accomplished by determining relative vertical positioning of said single vision sensor relative to said reference point coordinates.

11. (Previously Presented) A method as in claim 9, wherein said method further comprises the steps of:

initially determining, as an assumed default, each said object to be at a same elevation as said vehicle; and

generating each said object detection signal in response to each such initial determination.

12. (Previously Presented) A method as in claim 9, wherein said method further comprises the step of reducing a traveling speed of said vehicle when a vision-sensed height and width of said object appear to increase in size.

13. (Previously Presented) A method as in claim 9, wherein said method further comprises the step of determining each said object to be at a different elevation than said vehicle when said object appears to maintain a same height and width but change in vertical position.

14. (Previously Presented) A method as in claim 9, wherein said method further comprises the steps of determining object parameters and generating said safety system signal in response to said object parameters.

15. (Previously Presented) A method as in claim 14, wherein the step of determining object parameters is at least partially accomplished by determining an up-angle of each said object.

16. (Previously Presented) A method as in claim 14, wherein the step of determining object parameters is at least partially accomplished by determining a size and an up-angle of each said object and, in response thereto, determining a range of said object.

17. (Previously Presented) A method as in claim 14, wherein the step of determining object parameters is at least partially accomplished by determining at least one parameter selected from the group consisting of object range, range rate, height, width, size, and acceleration.

18. (Previously Presented) A method as in claim 9, wherein the step of generating a safety system signal at least partially includes generating an adaptive cruise control signal.

19. (Previously Presented) A method as in claim 9, wherein said method further comprises the steps of determining an orientation of said single vision sensor and also generating said safety system signal in response to said orientation.

20. (Withdrawn) An adaptive cruise control system for controlling the speed of a vehicle, said adaptive cruise control system comprising:

a single vision sensor having a position with associated coordinates onboard said vehicle and operable to detect at least one object and also accordingly generate at least one object detection signal;

a controller coupled to said single vision sensor and operable to determine a size and a vertical up-angle of each said object in response to said associated coordinates and each said object detection signal, determine a range of each said object in response to said size and said vertical up-angle, and reduce said speed of said vehicle in response to said range; and

an indicator coupled to said controller and operable to alert an operator onboard said vehicle in response to said range.

21. (Withdrawn) An adaptive cruise control system as in claim 20, wherein said indicator includes at least one feature selected from the group consisting of a light, a light-emitting diode (LED), an audio system, and a video system.